

REMARKS

The Official Action mailed September 26, 2001 has been received and its contents carefully noted. Claims 1-53 are pending in the present application. Claims 1, 10, 19, 21, 31, 33, 43, and 44 have been amended and new claims 54-56 have been added to recite additional protection to which Applicant is entitled.

Paragraphs 2-5 of the Official Action object to the drawings in the subject application for a number of informalities. In response, submitted herewith is a *Request for Drawing Change Approval*. Specifically, Applicants request correction of Figure 30 to include the “conductive spacers 8” and the “adhesive 9 (resin)” as required by the Examiner. Also, Applicants have designated Figure 30 as “prior art” as required by the Examiner. Figure 1a is also corrected to include reference 186a to the image signal driver circuit and the specification accordingly amended. Page 31 of the specification has been further amended to correct reference number 173 to 174. Finally, it is respectfully submitted that reference 103a can be found in the upper right of Figure 3a and reconsideration is requested in view thereof.

Paragraph 6 of the Official Action objects to the specification due to minor informalities, which have been corrected as requested by the Examiner. Applicants are unaware of further minor errors, but will gladly correct any that come to their attention.


The Official Action rejects claims 2, 11, 22, 34, and 45 under 35 U.S.C. §112, first paragraph as lacking enablement. Specifically, it appears that the Official Action is asserting that the present specification does not enable one of skill in the art to form the protecting film from a resin. Applicant respectfully disagrees while the last sentence of page makes reference to a problem of protecting against moisture because metallic film 3a is touching the adhesive resin 9, such reference does not preclude one of skill in the art from forming the protective film of resin, as taught in the specification. Reconsideration is respectfully requested.

The present invention is generally directed to a semiconductor device comprising a connecting wiring for connecting a circuit over a substrate to another circuit, wherein the connecting wiring is a lamination film comprising a metallic film and a transparent conductive film in contact with the metallic film, and wherein a side surface of the metallic film is covered with an insulating film along the length of direction the lamination (see Figs. 11A to 12B). It is respectfully submitted that none of the prior art of record disclosed or suggest a side surface of

the metallic film being covered with an insulating film along the length direction of the lamination as recited in the claims as amended and favorable reconsideration is requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,


Eric J. Robinson
Reg. No. 38,285

NIXON PEABODY LLP
8180 Greensboro Drive, Suite 800
McLean, Virginia 22102
(703) 790-9110

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please amend the specification as follows:

Page 15. Paragraph 3

As shown in Fig. 1A, on a glass substrate 101, there are provided a pixel portion 188 disposed with a thin film transistor, a scanning signal driver circuit 185, and an image signal driver circuit [186] 186a as the driver circuit for driving the thin film transistor disposed in the pixel portion. In addition, a signal processing circuit 187 such as a CPU or a memory circuit is provided.

Page 15. Paragraph 4

In the pixel portion 188, a gate wiring 189 extending from the scanning signal driver circuit 185 and a source wiring 190 extending from the image signal driver circuit [186] 186a intersect into a matrix shape to form pixels. Each pixel is provided with a pixel TFT 204 and a storage capacitor 205 as shown in Figure 6A.

Page 27. Paragraph 2

Thereafter, a resist mask having a predetermined pattern is formed by using a photomask PM5 (Fig. 6A). Contact holes reaching the source or drain regions of the respective island-like semiconductor films are formed in the insulating films 138 and 139. Further, insulating film 138 and 139 are removed from the terminal section 182. The contact holes are formed by dry etching. In this case, a mixed gas of CF_4O_2 and He is used as the etching gas. The interlayer insulating film 139 formed of the organic resin material is first etched. Then, the etching gas is switched to CF_4O_2 and the protective insulating film 138 is etched. To improve the selection ratio with the island-like semiconductor films, the etching gas is switched further to CHF_3 and the gate insulating film is etched. In his way, the contact holes can be formed satisfactory.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Page 31, Paragraph 2

Further in this embodiment columnar spacer 172 is formed, as shown in Fig. 7, on the active matrix substrate which went through the above described processes. At the same time, a protective film [173] 173 which protects side face of the terminal section 182 of the connection wiring 183 is formed with the formation of the columnar spacer 172. The material of the columnar spacer 172 is not limited, in particular, and they may be formed by using, for example, "NN700" of JSR Co., and after the material is coated by a spinner, a prescribed pattern is formed by exposure and development. The pattern is then heated and cured at 150 to 200° C in a clean oven. Or like the like.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please cancel claim 11 and amend claims 1, 10, 19, 21, 31, 33, 43, and 44 as follows.

1. (Amended) A contact structure for electrically connecting a connecting wiring over a substrate to a wiring over another substrate by [means of] an anisotropic conductive film, wherein said connecting wiring is a lamination film [formed of] comprising a metallic film and a transparent conductive film in contact with said metallic film, and [in a connecting portion with said anisotropic conductive film,] wherein a side surface of said metallic film is covered with a protecting film along the length direction of said lamination film.

10. (Amended) A contact structure for electrically connecting a connecting wiring over a substrate to a wiring over another substrate by [means of] an anisotropic conductive film, wherein said connecting wiring is a lamination film [formed of] comprising a metallic film and a transparent conductive film in contact with said metallic film, [and] wherein a side surface of said metallic film is covered with an insulating film along the length direction of said lamination film, and [only said transparent conductive film] wherein said metallic film is not in contact with said anisotropic conductive film.

19. (Amended) A semiconductor device comprising:
a circuit [structured with] comprising a thin film transistor over a substrate; and
a connecting wiring over said substrate for connecting [the] said circuit [structured with the thin film transistor] to another circuit,
wherein said connecting wiring is a lamination film [of] comprising a metallic film and a transparent conductive film in contact with said metallic film, and
wherein a side surface of said metallic film is covered with [a protecting film at a connecting portion with the other circuit] an insulating film along the length direction of said lamination film.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

21. (Amended) A semiconductor device of claims 19 wherein the connecting wiring is electrically connected to a wiring of [the other] said another substrate via [the] an anisotropic conductive film.

31. (Amended) A semiconductor device comprising:
a first substrate [having] comprising a circuit [structured with] comprising a thin film transistor;
a second substrate opposing said first substrate;
a connecting wiring [formed of] comprising a metallic film and a transparent conductive film in contact with [the] said metallic film [surface] for connecting said circuit [structured with a thin film transistor] to another circuit; and
[a protecting] an insulating film in contact with a side surface of said metallic film,
wherein said connecting wiring and said protecting film are formed over said first substrate and
wherein said protecting film is formed along with the length direction of said lamination film.

33. (Amended) A semiconductor device of claims 31 wherein [the] said connecting wiring is electrically connected to a wiring of [the other] said second substrate via [the] an anisotropic conductive film.

43. (Amended) A semiconductor device comprising:
a first substrate [having] comprising a circuit [structured with] comprising a thin film transistor;
a second substrate opposing said first substrate;
a connecting wiring [formed of] comprising a metallic film and a transparent conductive film in contact with [the] said metallic film [surface] for connecting said circuit [structured with a thin film transistor] to another circuit;
a column-shape spacer formed over said thin film transistor for maintaining a

VERSION WITH MARKINGS TO SHOW CHANGES MADE

space between said first substrate and said second substrate; and

a protecting film in contact with a side surface of said metallic film [formed of a]
comprising the same material as that of the column-shape spacer,

wherein said connecting wiring, said column spacer, and said protecting turn are
formed over said first substrate, and

wherein said protecting film is formed along with the length direction of said
lamination film.

44. (Amended) A semiconductor device of claims 43 wherein [the] said connecting wiring is electrically connected to a wiring of [the other] said second substrate via [the] an anisotropic conductive film.